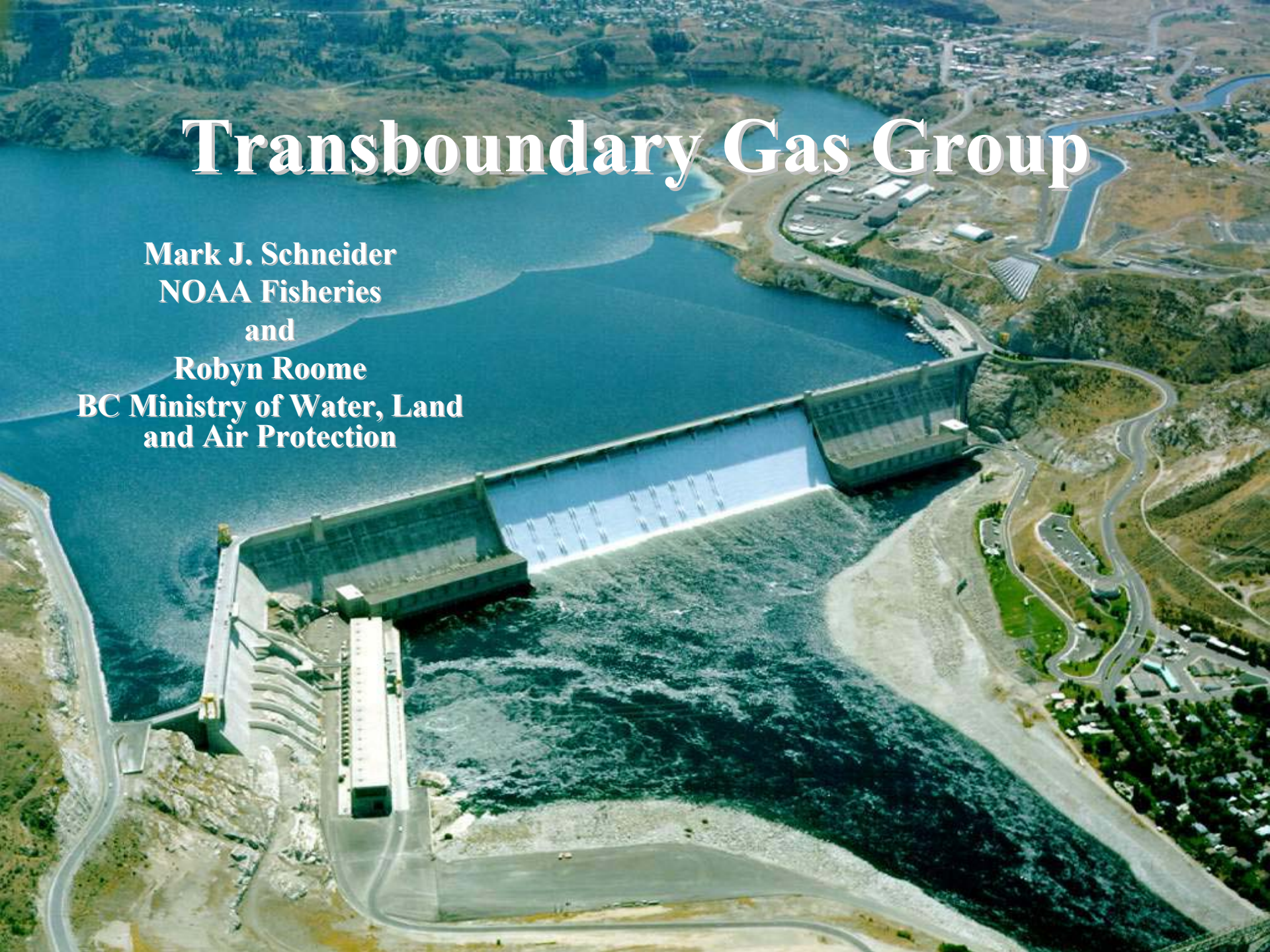


Transboundary Gas Group

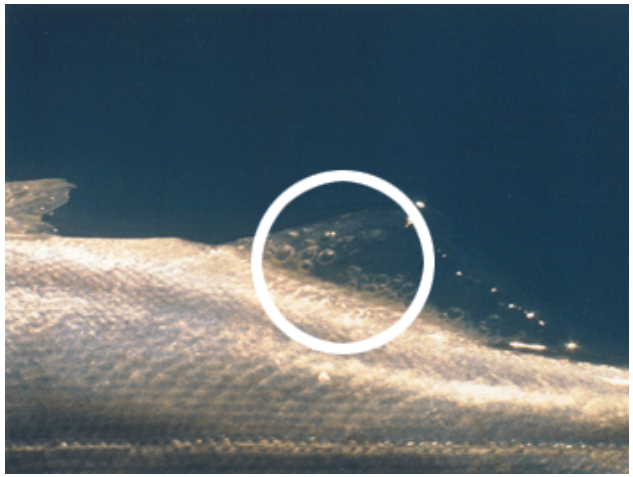
Mark J. Schneider
NOAA Fisheries
and
Robyn Roome
BC Ministry of Water, Land
and Air Protection

Transboundary Gas Group

Organized in 1998 to help coordinate ongoing investigations and dissolved gas management efforts in the transboundary region of the Columbia River Basin

Total Dissolved Gas

- High levels of total dissolved gas (TDG) are often produced below dams when spilled water plunges to depth
- Supersaturated levels of dissolved gas can cause gas bubble disease in aquatic biota



Gas Bubble Trauma
-courtesy Lake Roosevelt Forum

TGG Long-Term Goal

- Reduce systemwide TDG to levels safe for all aquatic life in the most cost-effective manner possible

Brilliant Expansion
-courtesy Columbia Power Corp.

TGG Early Organization

- Steering Committee
- Four technical workgroups
  - Biological Effects and Research
  - Monitoring and Information Sharing
  - Modeling (Computer Simulations)
  - Operational and Structural Gas Abatement

TGG Framework Plan Phase 1 Activities

- Monitoring Information
  - Develop monitoring plans for initial screening models
- Computer Modeling
  - Identify data and information needs for screening models
- Structural Characteristics
  - Identify structural alternatives for transboundary gas planning
- Framework Plan Integration
  - Evaluate existing treaty implications for dissolved gas management in the Columbia River Basin

TGG Influence

- Enhanced TDG monitoring and modeling at transboundary hydro projects
- Project operational changes leading to reduced gas production
- Project structural changes leading to reduced gas production

TGG Accomplishments

- Framework Plan for Coordinating Activities of the Columbia River Transboundary Gas Group
- *Treaty Implications of Dissolved Gas Management in the Columbia River Basin*
  - by Robert M. Goldschmidt, June, 2001
- Endorsement of Columbia Power Corporation's expansion of generation capacity at Brilliant Dam. March 2000.

Accomplishments (cont.)

- Endorsement of Teck Cominco Metals Ltd. increase in hydroelectric generation capacity at Waneta Dam. November, 2002.
- Letter to U.S. Army Corps of Engineers requesting investigation of system-wide TDG of Upper Columbia River Alternative Flood Control Operations (VarQ). October, 2003

Expand TGG Technical Scope? Yes? No?

- April, 2002, Spokane, WA, *"Towards Ecosystem-Based Management: Breaking Down the Barriers in the Columbia River Basin"* conference
  - Joint meeting of TGG Co-Chair and the ECC
  - ECC request – Would TGG consider expanding technical scope to include "water quality" issues?

Rationale for Scope Expansion from TDG to Water Quality

- Enhance dialogue and efforts on other transboundary water quality issues
  - Review of major projects and industrial activities in transboundary region
  - Water quality planning , e.g., Water Management Plans and TMDLs
  - Coordination of assessments, monitoring, sampling protocols, etc.
  - Impacts of land use practices in transboundary region

Expanded TGG Scope = TGG Growth? Probably

- TGG Steering Committee would need to assume new responsibilities, strategies for response
- Increased selectivity in accepting assignments
- Assignments may require additional technical expertise
- ECC may need to provide direction, priorities, and logistical and resource support